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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Richard Lauder

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EXAMINER

PAYNE, DAVID C

ART UNIT

PAPER NUMBER

2633

11

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,184

Applicant(s)

LAUDER ET AL.

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 7-10 filed 15 March 2004 with respect to the rejection(s) of claim(s) 1-18 under 35 U.S.C. 112 2nd paragraph and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Saleh US 6,587,241 B1 (Saleh).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1, 6, 10, 11 and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Saleh US 6,587,241 B1 (Saleh).

Re claims 1, 18 Saleh disclosed (Figure 1)

An optical ring network structure/method comprising: two or more network elements (16), and a single optical fiber (14) connection between each pair of neighboring network elements for carrying an optical signal, wherein the ring network structure is arranged in a manner

such that, in use, band allocation utilizing multiplexing on each single fiber connection is chosen in a manner such that groups of wavelengths for bi-directional data transfer and for bi-directional redundant data transfer for protection respectively are provided on each single fiber connection (see e.g., Saleh col./line: 8/55-67, 9/1-15).

Re claim 6, Saleh disclosed,

wherein the optical ring network structure is arranged in a manner such that the data transfer and the redundant data transfer are transmitted concurrently (1+N type protection, see e.g., Saleh col./line: 9/5-10).

Re claim 10, Saleh disclosed,

wherein the optical ring network structure is arranged in a manner such that the redundant data transfer is transmitted only in response to a failure (M:N type protection, see e.g., Saleh col./line: 9/10-15).

Re claim 11, Saleh disclosed,

wherein the optical ring network structure transmits unprotected data on the groups of wavelengths provided for the redundant data transfer in a normal operational state of the optical ring network structure (M:N type protection, see e.g., Saleh col./line: 9/10-15).

Where $N = 0$.

Re claim 14, Saleh disclosed,

wherein the propagation directions of alternating groups of wavelengths with respect to the ring network structure are opposed to one another (interspersed, see e.g., Saleh col./line: 8/65-67).

Re claim 15, Saleh disclosed,
wherein the groups of wavelengths each comprise a single transmission channel (λ_{wc} , λ_{pc} , see e.g., Saleh col./line: 9/17-20).

Re claims 16, 17, Saleh further disclosed,
band allocation utilizing multiplexing on each one of the single fiber connections between each of the pairs is chosen in a manner such that groups of wavelengths for bi-directional data transfer and for bi-directional redundant data transfer for protection respectively are provided on each single fiber connection (λ_{Gp} , see e.g., Saleh col./line: 8/55-60).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2633

5. Claims 2-5, 7, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saleh US 6,587,241 B1 (Saleh) in view of Kai et al. US 6,278,536 B1.

Re claim 2, Saleh disclosed multiplexers and demultiplexers but does not indicate detail structure on their use (see. Saleh e.g., col./line: 5/15-22)

Kai disclosed

wherein the optical ring network structure comprises MUX/DEMUX means located at each network element for multiplexing and de-multiplexing the optical signal, depending on the propagation directions of the respective wavelengths in the optical signal with respect to the MUX/DEMUX means (e.g., col./line: 3/25-30, Figure 1 (22) (23) (32) and (33)).

It would have been obvious to one of ordinary skill in the art at the time of invention to use the multiplexers and demultiplexers as in Kai to combine and separate wavelengths onto the bi-directional fibers.

Re claims 3 and 4, Saleh disclosed circulators but does not indicate detail structure on their use (see. Saleh e.g., col./line: 5/10-15)

Kai disclosed

wherein the MUX/DEMUX means comprises a 3-port circulator disposed to combine counter propagating traffic from a unidirectional multiplexer means and to a unidirectional de-multiplexer means of the MUX/DEMUX means (e.g., col./line: 3/25-30, Figure 1 (22) (23) (32) and (33)).

It would have been obvious to one of ordinary skill in the art at the time of invention to use

the circulators as in Kai to couple and uncouple multiple signals onto the bi-directional fibers.

Re claims 5 and 13

Saleh does not disclose, wherein the MUX/DEMUX means comprises a dense WDM MUX/DEMUX and a coarse WDM MUX/DEMUX, wherein the coarse WDM MUX/DEMUX is disposed in a manner such that, in use, it drops and adds certain wavelength bands at the network element to and from the fiber connections to further demultiplexing and from multiplexing by the dense WDM MUX/DEMUX. Kai disclosed the aforementioned circulators that are capable of adding and dropping wavelengths (or Figure 14 (105b)). It would have been obvious to one of ordinary skill in the art at the time of invention to separate the demultiplexing function into granularities of WDM and coarse WDM for the benefit of managing bands of wavelengths. However, making parts separable is not considered patentable over the prior art.

Re claims 7, 8 and 12, Saleh does not disclose a switch for selecting between data and redundant data. Kai disclosed wherein the ring network structure comprises means for selecting (switch) between receipt of either the data transfer or the redundant data transfer located at each network element (Figure 2 (101), e.g., col./line: 19/38-42). It would have been obvious to one of ordinary skill in the art at the time of invention to use a switch to select between data inputs as switches are well known in the art for selecting between data.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saleh US 6,587,241 B1 (Saleh) and Kai et al. US 6,278,536 B1 as applied to claim 7 above, and in view of Egnell et al. US 6,590,681 (Egnell).

The modified invention of Saleh and Kai does not disclose using amplifiers for selecting between the received data and redundant data. Egnell disclosed using amplifiers to select respective links (see Figure 2 15e, 29w, 15w, 29e, e.g., col./line: 5/35-50). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the switch function and amplifier in the modified Saleh/Kai invention for the benefit of both selecting redundant data and amplifying added signals in a node in one device.

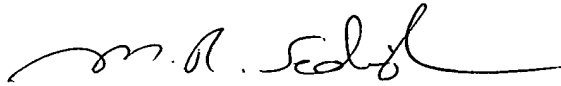
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp


M.R. SEDIGHIAN
Primary Examiner
Art Unit: 2633